

CONTROL SYSTEMS AND METHODS

ABSTRACT OF THE DISCLOSURE

Systems and methods for detecting faults in RVDTs and LVDTs are described. In an exemplary embodiment, a sum of secondary voltages V1 and V2 from a transducer is obtained by adding the secondary voltages together, i.e., $V1 + V2$. This sum of secondary voltages theoretically should be constant for all LVDT / RVDT positions, since the total length of the secondary transformer is constant. An electrical fault in the primary or secondary windings generates a corresponding change in the sum of secondary voltages. By comparing this shifted value to a reference value which is representative of a no-fault condition, an error value is created which indicates the magnitude of the shift in the sum of the secondary values. Depending upon the magnitude of the error value, certain actions are taken.